Environmental Protection Agency 2019 Targeted Airshed Grant Program
Wood Burning Appliance Change-Out Program

Emissions Reduction Calculation Description

The emission reductions resulting from the implementation of this project were calculated using an emission calculator created with the guidance of EPA. This emission factors and methodology used for the emission calculator can be found at https://www.epa.gov/sites/production/files/2015-11/emissioncalculator_2.xlsx. Additional information on EPA Burn Wise can be found at https://www.epa.gov/burnwise/burn-wise-additional-resources. The project's cost effectiveness on the emission calculator is calculated based on total combined PM lifetime emission reductions and incentive cost.

The anticipated emission reductions for this project were calculated with the assumption that non-certified devices were being replaced with EPA certified devices. A 20 year project life was used while calculating the anticipated emission reductions. The incentive amount of $2,362.20 used in the emission reductions calculation is based off historical project data. Using this information, the anticipated lifetime (20 yrs.) emission reductions per devices is 0.346 tons of PM, 2.475 tons of Carbon Monoxide, and 0.648 tons of Volatile Organic Compounds. Annual emission reductions per device were calculated by dividing these values by 20. Refer to the table below.

Anticipated Reductions	PM (tons)	CO	VOC
Annual Reductions Per Device	0.017	0.124	0.032
Lifetime (20 yrs.) Reductions Per Device	0.346	2.475	0.648
Total Annual Reductions for Project (7,620 devices)	131.910	942.937	246.713
Total Lifetime (20 yrs.) Reductions for Project (7,620 devices)	2,638.204	18,858.684	4,934.232

In order to determine the annual emission reductions for the total proposed projects (7,620 devices), the annual emission reductions per device was multiplied by 7,620. This results in reducing 131.910 tons of PM, 942.937 tons of Carbon Monoxide, and 246.713 tons of Volatile Organic Compounds annually. These values were multiplied by 20 to calculate the total lifetime (20 yrs.) emission reductions for the total projects (7,620 devices). This results in reducing 2,638.204 tons of PM, 18,858.684 tons of carbon monoxide, and 4,934.232 tons of Volatile Organic Compounds. The overall cost-effectiveness for the project will be $3,411.40 per device.